

What is claimed is:

1. Means of locomotion (10, 20, 30) with at least one surface (101, 201, 301), along which a surrounding medium
5 flows during the movement of the means of locomotion (10, 20, 30), the at least one surface (101, 201, 301) having a structuring which comprises a multiplicity of depressions and/or elevations (602, 702, 802, 902).
- 10 2. Means of locomotion (10, 20, 30) according to Claim 1, the at least one surface (101, 201, 301) being designed in such a way that vortices form in the surrounding medium in the vicinity of the at least one surface (101, 201, 301) when the medium flows along the at least one surface (101, 201, 301).
- 15 3. Means of locomotion (10, 20, 30) according to one of the preceding claims, the depressions and/or elevations (602, 702, 802, 902) being rounded in the region of the edge with respect to the rest of the surface (101, 201, 301).
- 20 4. Means of locomotion (10, 20, 30) according to one of the preceding claims, the depressions and/or elevations (602, 702) being essentially in the form of a segment of a sphere or of an ellipsoid.
- 25 5. Means of locomotion (10, 20, 30) according to one of the preceding claims, comprising a device for varying the form and/or number of depressions and/or elevations (602, 702).
- 30 6. Means of locomotion (10, 20, 30) according to one of the preceding claims, the depressions and/or elevations (602, 702,

802, 902) being arranged at least partially essentially periodically on the at least one surface (101, 201, 301).

7. Means of locomotion (10, 20, 30) according to one of the preceding claims, the at least one surface (101, 201, 301) comprising at least one first, essentially planar region (601) and at least one second, essentially curved region (901).

8. Means of locomotion (10, 20, 30) according to Claim 7, the depressions and/or elevations (602, 902) in the at least one first region (601) and in the at least one second region (901) differing from one another in form and/or size and/or arrangement.

9. Means of locomotion (10, 20, 30) according to Claim 7 or 8, at least in the at least one first, essentially planar region (601) of the at least one surface (101, 201, 301), the center points of three directly adjacent depressions and/or elevations (602) forming an equilateral triangle, and the spacing of the center points of two adjacent depressions and/or elevations (602) having an essentially constant first value (t_2) and the spacing of two successive rows of depressions and/or elevations (602) having an essentially constant second value (t_1).

10. Means of locomotion (10) according to one of the preceding claims, designed as a land craft, in particular as a rail vehicle or as a heavy goods vehicle or passenger car, comprising at least one outer casing, at least parts of the surface (101) of the outer casing having a multiplicity of depressions and/or elevations.

11. Means of locomotion (10) according to Claim 10, the formation of leeward rolls being reduced by means of the at least one surface (101) which has a multiplicity of depressions and/or elevations, as compared with an otherwise
5 identical means of locomotion in which the at least one surface has a smooth structure.

12. Means of locomotion (20) according to one of the preceding claims, designed as an aircraft, in particular as an
10 airplane or helicopter, comprising at least one outer casing and/or one propeller and/or one rotor and/or one turbine and/or one wing and/or one airfoil and/or one tail unit, at least parts of the surfaces (201) of the outer casing and/or of the propeller and/or of the rotor and/or of the turbine
15 and/or of the wing and/or of the airfoil and/or of the tail unit having a multiplicity of depressions and/or elevations.

13. Means of locomotion (30) according to one of the preceding claims, designed as a watercraft, comprising at
20 least one hull (31) and/or one propelling screw (33), at least parts of the surfaces (301) of the hull (31) and/or of the propelling screw (33) having a multiplicity of depressions and/or elevations.

25 14. Means of locomotion (10, 20, 30) according to one of the preceding claims, in which, by means of the at least one surface (101, 201, 301) which has a multiplicity of depressions and/or elevations (602, 702, 802, 902), as compared with an otherwise identical means of locomotion in
30 which the at least one surface has a smooth structure,
- the formation of drag eddies is reduced and/or
- the formation of leeward rolls is reduced and/or

- the flow resistance is reduced and/or
- the position of the flow breakaway is displaced rearward in relation to the direction of movement of the means of locomotion (10, 20, 30) and/or
- 5 - the generation of noise is reduced and/or
- the generation of vibration is reduced.

15. Means of locomotion (10, 20, 30) according to one of the preceding claims, the deposition of particles on the at least
10 one surface (101, 201, 301) which has a multiplicity of depressions and/or elevations being reduced, as compared with a smooth surface, when a medium flows along the surface.

16. Means of locomotion (10, 20, 30) according to one of the preceding claims, the formation of ice on the at least one
15 surface (101, 201, 301) which has a multiplicity of depressions and/or elevations being reduced, as compared with a smooth surface, when a medium flows along the surface and the surface has a lower temperature than the medium.

20 17. Use of a surface which has a multiplicity of depressions and/or elevations as a surface (101, 201, 301) of a means of locomotion (10, 20, 30) for the

- reduction in the formation of drag eddies and/or
- 25 - reduction in the formation of leeward rolls and/or
- reduction in the flow resistance and/or
- displacement of the position of the flow breakaway rearward in relation to the direction of movement of the means of locomotion (10, 20, 30) and/or
- 30 - reduction in the generation of noise and/or
- reduction in the generation of vibration and/or

- reduction in the deposition of particles when a medium flows along the surface and/or
- reduction in the formation of ice when a medium flows along the surface.

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18. Layer, in particular film, for application onto a surface or parts of a surface of a means of locomotion, the outside of the layer having a structuring which comprises a multiplicity of depressions and/or elevations.